

of the Nation 2005







The Health and Well-Being of Children in Rural Areas:

A Portrait of the Nation 2005

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Health Resources and Services Administration

Rockville MD 20857

Dear Colleagues:

The Health Resources and Services Administration is pleased to present this chartbook highlighting the major findings of the National Survey of Children's Health on the health of children in rural areas. This survey, the first of its kind, presents national- and state-level information on the health and well-being of children and their use of health services.

The survey includes many positive findings about the health of both rural and urban children. The National Survey of Children's Health found that children in urban and rural areas are equally likely to be healthy, with about 84 percent of children reported to be in excellent or very good health regardless of location. And rural children are more likely than their urban peers to get regular exercise and to be safe in their neighborhoods, according to their parents.

However, children in rural areas face some specific health risks. Rural children are less likely to be breastfed for at least six months and are more likely to live in households where someone smokes than children in urban areas. In addition, specific subpopulations face particular risks; rural children in low-income families, for example, are more likely to have moderate or severe socio-emotional difficulties than children of the same income level in urban areas.

We at HRSA hope that these findings provide useful information on children's health and are helpful in your efforts to promote children's health across the United States.

Sincerely,

Elizabeth M. I Administrator



Introduction

Children in rural areas face particular risks to their health and well-being. Children who live outside of metropolitan areas are more likely to live in poor families, have higher mortality rates, and are more likely to use tobacco than their counterparts in urban areas. Rural families must travel greater distances to use health services; 452 non-metropolitan and frontier counties are designated as Health Professional Shortage Areas for primary care, and 1,409 entire counties are considered Medically Underserved Areas by the Federal Government.

The National Survey of Children's Health (NSCH) presents a unique resource with which to analyze the health status, health care use, and risk factors experienced by children in rural areas in the context of their families and communities. The NSCH was designed to measure the health and well-being of children from birth to age 17 in the United States while taking into account the environment in which they grow and develop. Conducted for the first time in 2003, the survey collected information from parents about their children's health, including oral, physical and mental health, health care utilization and insurance status, and social well-being. Aspects of the child's environment that were assessed in the survey include family structure, poverty level, parental health and habits, and community surroundings. The survey was supported and developed by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB) and was conducted by the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS).

How Locations were Defined

Children were classified according to their residence in an "urban focused" area, a large rural area, or a small or isolated rural area, based on the size of the city or town and the commuting pattern in the area. Urban-focused areas include metropolitan areas and surrounding towns from which commuters flow to an urban area: large rural areas include large towns ("micropolitan" areas) with populations of 10,000 to 49,999 persons and their surrounding areas; and small or isolated rural areas include small towns with populations of 2,500 to 9,999 persons and their surrounding areas. The map on page 6 shows how these three types of areas are distributed across the United States. Of the 72.7 million children in the U.S., 58.2 million live in urban-focused areas, 7.2 million live in large rural areas, and 7.3 million live in small rural or isolated areas.

Findings of the Survey

Children in rural areas are more likely to be poor than those in urban-focused areas: of children in small or isolated areas, 22.9 percent have family incomes below the Federal poverty level, as do 19.8 percent of those in large rural areas; this compares to 17.0 percent of children in urban-focused areas. Rural children are also more likely to be non-Hispanic White. Among children in urban areas, 57.2 percent are White, compared to 73.3 percent of children in large rural areas and 76.2 percent of children in small rural towns.

The NSCH found that children's health status does not vary substantially by location: approximately 84 percent of children are reported by their parents to be in excellent or very good health, regardless of their urban or rural status. However, rural children do face specific health risks. Children in both large and small rural areas are significantly less likely to be breastfed for at least 6 months, as the American Academy of Pediatrics recommends: 40.5 percent of children in urban-focused areas are breastfed for 6 months or more, compared to 31.7 percent of children in large rural areas and 31.4 percent of children in small rural communities. In addition, rural children are more likely to live in households where someone smokes. More than one-third of children in rural areas (37.0 percent of children in large rural areas and 38.1 percent of children in small rural or isolated areas) live in households with a smoker, compared to 27.5 percent of urban children.

Rural children may experience other risks to their well-being as well. School-aged children in large and small rural areas are more likely than urban children to have repeated a grade: 13.1 percent of children aged 6-17 in large rural areas and 13.3 percent of children in small or isolated rural areas have repeated a grade, compared to 10.8 percent of children in urban-focused areas. Rural children, especially those in small or isolated areas, are also more likely to stay home alone. Among 6- to 11-year-olds in small or isolated rural communities, 18.7 percent are reported to have spent any time caring for themselves, without the supervision of an adult or older child in the past week, compared to 16.1 percent of children in large rural areas and 15.6 percent of children in urbanfocused areas.

In some cases, the effect of living in rural areas is particularly pronounced



for specific subpopulations. For example, low-income children in rural areas are at higher risk of missing 11 or more days of school due to illness and to have moderate or severe social-emotional difficulties than children of the same income level in urban-focused areas or higher-income children in rural areas. Some risk factors are especially prevalent among specific racial/ethnic groups: compared to their urban counterparts, American Indian/Alaska Native children in small rural areas are twice as likely to be overweight, non-Hispanic White children in rural areas are more likely to experience gaps in health insurance, and rural non-Hispanic Black children are less likely to be breastfed for at least 6 months.

Living in rural areas also has health benefits for children. A higher percentage of children in rural communities are reported by their parents to be safe in their neighborhoods (90.2 percent of children in small or isolated and 86.9 percent of children in large rural areas are usually or always safe in their neighborhoods, compared to 82.6 percent of children in urban-focused areas). Rural children are also more likely to exercise regularly: 75.3 percent of children in small rural and 73.9 percent in large rural areas are reported to exercise regularly, compared to 70.4 percent of children in urban areas.

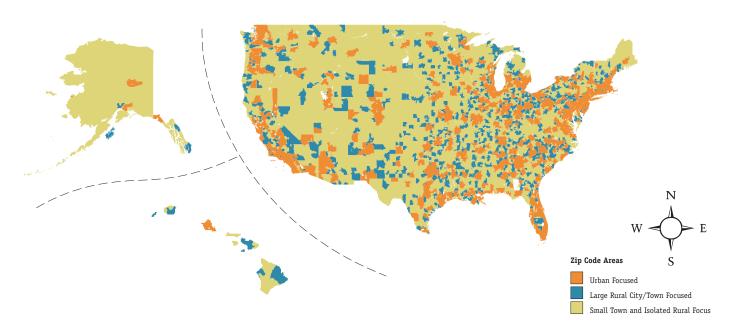
This book presents information about the health and health care of children by location and by major demographic characteristics such as age, sex, race and ethnicity, and family income. Unless otherwise noted, all graphs provide information on children from birth to age 17. Children were classified by race and ethnicity in six categories: non-Hispanic White, non-Hispanic Black, Hispanic, non-Hispanic American Indian/Alaska Native (alone or in combination with other races), other single races, and other combined races.

The Technical Appendix of this chartbook presents important information about the survey sample and methodology. For more detailed analyses of the survey results, the Data Resource Center on Child and Adolescent Health (DRC) Web site provides online access to the survey data. The interactive data query feature allows users to create their own customized tables and to compare survey results at the national and State level, and by relevant subgroups such as age, race and ethnicity, and family income.

Sponsored by HRSA's MCHB, the Web site for the DRC is: www.nschdata.org

More complex analyses of the data can be conducted using the public use data set available from the NCHS at: www.cdc.gov/nchs/about/major/slaits/nsch.htm or through the MCHB Web site at www.mchb.hrsa.gov/programs/dataepi

Rural-Urban Commuting Areas (RUCAs), 2005⁵







The Child

While all children need regular preventive care and care when they are sick, and all parents share concerns for their children's health and safety, the health issues faced by children in rural areas may differ from those of urban children. This section presents information on children's health status, their health care, and their activities in and outside of school. Taken together, these measures present a snapshot of children's health and well-being that reflects a wide range of aspects of their lives.

Children's health status was measured through parents' reports of their children's overall health status as well as whether they had moderate or severe health or socio-emotional problems. In addition, parents were asked about their children's injuries and their concerns about their children's development and behavior.

Children's access to health care and parents' satisfaction with the health care their children receive were measured through questions about children's health insurance coverage and their use of preventive medical and dental services. Several survey questions were also combined to assess whether children had a "medical home," a source of primary care that is accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally effective.

Children's participation in activities in school and in the community represents another important aspect of their well-being. The survey addressed whether school-aged children had ever repeated a grade and whether they were ever left home alone. In addition, parents were asked about their children's participation in physical activities on a regular basis.

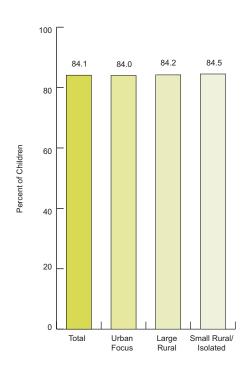




Overall Child Health Status

A child's general health status (as perceived by his/her parents) is a useful measure of his/her overall health and ability to function. Parents were asked to rate their child's health status as excellent, very good, good, fair, or poor. Regardless of location, approximately 84.0 percent of children are reported by their parents to be in excellent or very good health. Of children living in urban areas, 84.0 percent are reported to be in excellent or very good health; the same is true of 84.2 percent of children in large rural areas and 84.5 percent of children in small rural areas.

Percent of Children in Excellent or Very Good Health, by Location





The Child > Overall Child Health Status

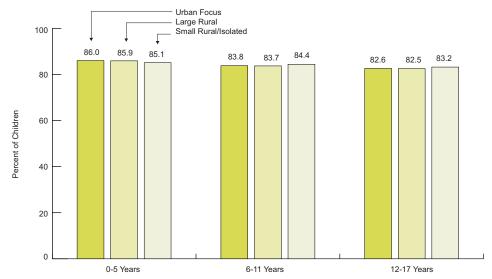




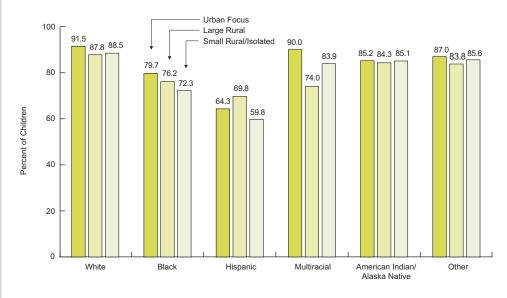
Overall, younger children are more likely than older children to be in excellent or very good health. However, within each age group child health status does not vary considerably by area of residence. Among children from birth through age 5, 86.0 percent located in an urban area are reported to be in excellent or very good health, while the same is true of 85.9 percent of the youngest children living in large rural areas, and 85.1 percent of the youngest children living in small rural areas. A similar pattern is seen among children 6-11 years of age, and 12-17 years of age.

Child health status varies more noticeably across residence within different racial and ethnic groups. Among White children, those living in urban areas are most often reported to be in excellent or very good health (91.5 percent), while those living in large rural areas are least likely to be in excellent or very good health (87.8 percent). As with White children, Black children are most likely to be reported by their parents to be in excellent or very good health if they live in an urban area (79.7 percent), however those living in small rural areas are least likely to be in excellent or very good health (72.3 percent). Among Hispanic children, those living in a large rural area are most likely to be in excellent or very good health (69.8 percent); among Hispanics living in small or isolated areas, only 59.8

Percent of Children in Excellent or Very Good Health, by Location and Age



Percent of Children in Excellent or Very Good Health, by Location and Race and Ethnicity



percent are reported to be in excellent or very good health. At approximately 85 percent, the parent-reported health status of American Indian/Alaska Native children does not vary considerably by area of residence.

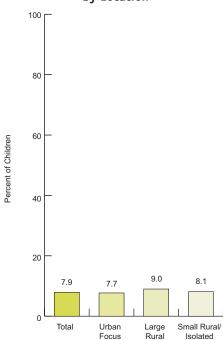




Children with Moderate or Severe Health Conditions

Some children have chronic physical or mental health problems, such as asthma or emotional or behavioral problems, which may have an impact on the child. Overall, 7.9 percent of children are reported by their parents to have a moderate or severe health condition. The occurrence of moderate or severe health conditions among children varies slightly by area of residence. Children living in large rural areas are most often reported by parents to have such health conditions (9.0 percent). The rate of such health conditions among children living in small rural areas is reported to be 8.1 percent, while the lowest rate, 7.7 percent, occurs among children living in urban areas.

Percent of Children with Moderate or Severe Health Conditions, by Location





The Child > Children with Moderate or Severe Health Conditions

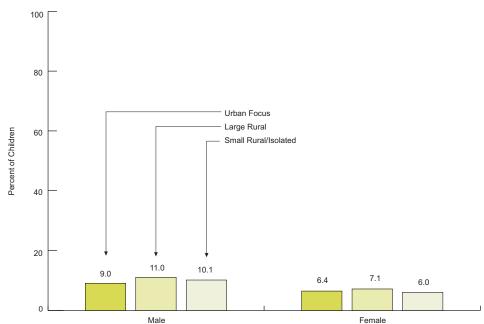




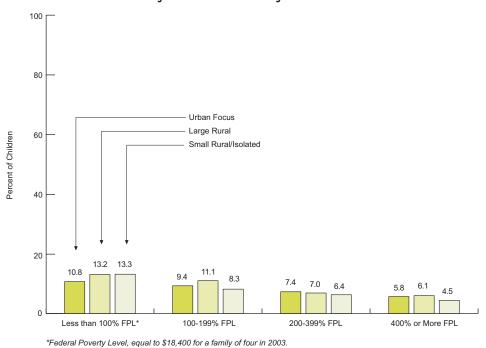
Overall, boys are more likely to have moderate or severe health conditions than girls, regardless of location. For both sexes, moderate or severe health conditions are most likely to be reported among children living in large rural areas. Among boys, such health conditions are least likely to occur in urban areas; among girls, they are least likely to occur in small rural areas.

Moderate or severe health conditions become less common among children with increasing family income. With regard to area of residence, moderate or severe health conditions are generally more prevalent in large and small rural areas, except among children with family incomes of 200-399 percent of the Federal poverty level; among these children, such health conditions are most commonly reported in urban locations.

Percent of Children with Moderate or Severe Health Conditions, by Location and Sex



Percent of Children with Moderate or Severe Health Conditions, by Location and Family Income



The Child > Children with Moderate or Severe Health Conditions



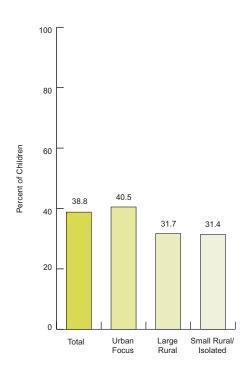


Breastfeeding

Breast milk is widely recognized to be the ideal form of nutrition for infants. Breastfed infants are less susceptible to infectious diseases and are less likely to suffer from diabetes, overweight and obesity, lymphoma, leukemia, and Hodgkin's disease, and asthma compared to children who are not breastfed. In addition, rates of postneonatal mortality (death between the first month and the end of the first year of life) are lower among breastfed infants.7 Therefore, the American Academy of Pediatrics recommends that, with few exceptions, all infants be fed with breast milk exclusively for the first 6 months of life.

Overall, 38.8 percent of children were breastfed for at least 6 months (although they may not have been exclusively breastfed). Breastfeeding for this duration is noticeably more common among children living in urban areas (40.5 percent). While breastfeeding for at least 6 months is less common in rural areas, the rates are similar between large rural and small rural areas (31.7 and 31.4 percent, respectively).

Percent of Children Breastfed 6 Months or More, by Location





The Child > Breastfeeding

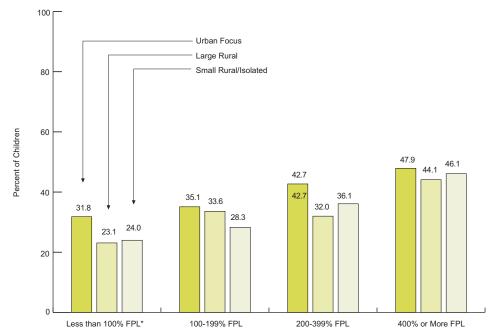




Overall, breastfeeding through at least 6 months becomes more common with increasing family income. The highest breastfeeding rates are among children living in urban areas with family incomes of 400 percent of the Federal poverty level (FPL) or above (47.9 percent); conversely, the lowest rates are among children living in large rural areas with family incomes below 100 percent of FPL (23.1 percent).

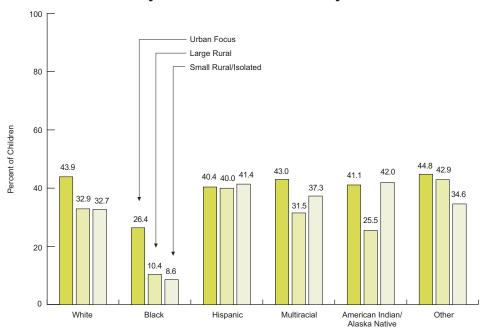
Breastfeeding also varies considerably by location within racial and ethnic groups. With few exceptions, within each racial/ethnic group, breastfeeding is more common among children in urban areas. Rates for Hispanic children, however, are reported to be approximately the same (around 40 percent) across locations, and rates among American Indian/Alaska Native children are highest in small rural areas and lowest in large rural areas (42.0 and 25.5 percent, respectively). Overall, the highest reported breastfeeding rates occur among other races and White children living in urban areas (44.8 and 43.9 percent, respectively), and American Indian/Alaska Native children living in small rural areas. The lowest rate occurs among Black children living in small rural areas (8.6 percent).

Percent of Children Breastfed 6 Months or More, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

Percent of Children Breastfed 6 Months or More, by Location and Race and Ethnicity



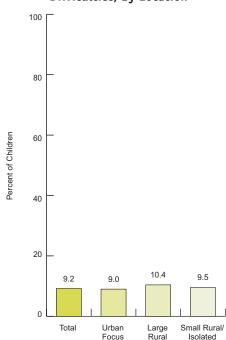




Children with Moderate or Severe Socio-Emotional Difficulties

Over 9 percent of children are reported by their parents to have difficulty with emotions, behavior, concentration, or the ability to get along with others. The prevalence of such socio-emotional difficulties does not vary greatly by location. Among children living in urban areas, 9.0 percent are reported to have socio-emotional difficulties; the same is true of 10.4 percent of children in large rural areas and 9.5 percent of children in small rural areas.

Percent of Children Aged 3-17 with Moderate or Severe Socio-Emotional Difficulties, by Location





The Child > Children with Moderate or Severe Socio-Emotional Difficulties

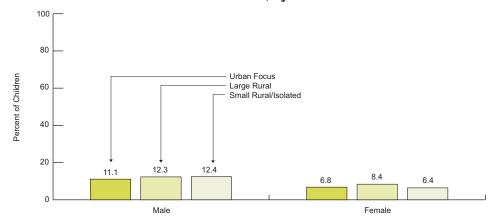




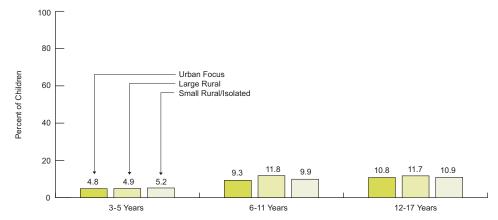
In general, moderate or severe socio-emotional difficulties are more common among boys, older children, and children with lower family incomes; however, there is little variation by location within these groups. For instance, 11.1 percent of boys in urban areas are reported to have moderate or severe socio-emotional problems, compared to 12.3 percent of boys in large rural areas and 12.4 percent of boys in small rural areas. The rates among girls are lower and do not follow the same pattern: rates are highest among girls in large rural areas (8.4 percent) and lowest in small rural areas (6.4 percent).

A similar lack of pattern is evident by age: rates among 3- to 5-year-olds are lowest in urban areas (4.8 percent) and highest in small rural areas (5.2 percent), but rates among 12-to 17-year-olds are lowest in urban areas (10.8 percent) and highest in large rural areas (11.7 percent). One of the most noticeable differences by location is evident among children living below the Federal poverty level: rates among children living in urban areas are 13.1 percent, compared to a rate of 17.7 percent in large rural areas.

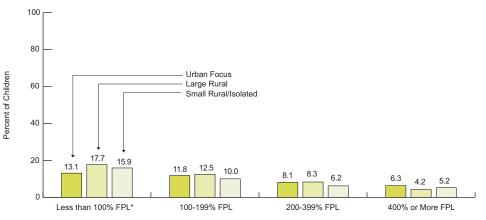
Percent of Children Aged 3-17 with Moderate or Severe Socio-Emotional Difficulties, by Location and Sex



Percent of Children Aged 3-17 with Moderate or Severe Socio-Emotional Difficulties, by Location and Age



Percent of Children Aged 3-17 with Moderate or Severe Socio-Emotional Difficulties, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003

The Child > Children with Moderate or Severe Socio-Emotional Difficulties

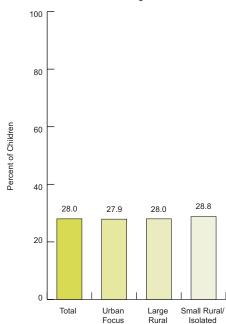




Impact of Socio-Emotional Difficulties

Some children have difficulty with emotions, behavior, concentration, or ability to get along with others. Parents of children with socioemotional difficulties were asked about the degree of "burden" their child's condition puts on the family: a great deal, a medium amount, a little, or not at all. Overall, the families of 28 percent of children with socio-emotional issues are affected moderately or a great deal. Families of children in urban and small rural areas are approximately equally likely to be affected moderately or a great deal (27.9 and 28.8 percent, respectively).

Percent of Children with Socio-Emotional Difficulties Whose Difficulties Impacted the Family Moderately or a Great Deal, by Location





The Child > Impact of Socio-Emotional Difficulties

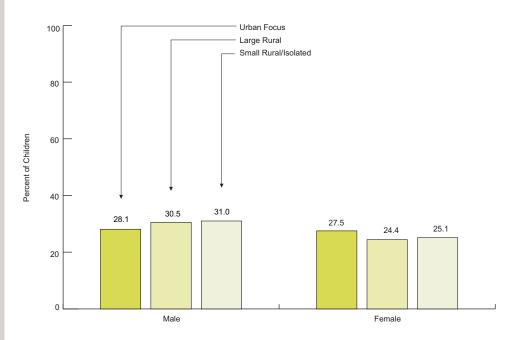




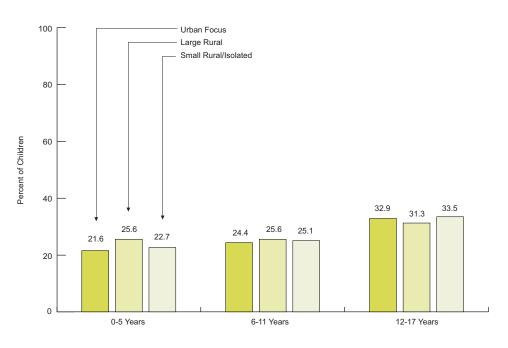
In general, boys' socio-emotional difficulties are more likely to impact their families moderately or a great deal than those of girls. Within each sex, there is slight variability across locations: among males, impact on the family is most likely to occur in small rural areas (31.0 percent) and least likely to occur in urban areas (28.1 percent); among girls, impact is most likely to occur in urban areas (27.5 percent) and least likely to occur in large rural areas (24.4 percent).

As with sex, there is slight variability in the impact of socio-emotional issues on the family across location within different age groups. In general, impact is more common as age increases. Among the youngest children, impact on the family is most likely to occur in large rural areas (25.6 percent) and least likely to occur in urban areas (21.6 percent); the same is true among 6- to 11year-olds. Among children ages 12-17, impact is most likely to occur in small rural areas (33.5 percent) and least likely to occur in large rural areas (31.3 percent).

Percent of Children with Socio-Emotional Difficulties Whose Difficulties Impacted the Family Moderately or a Great Deal, by Location and Sex



Percent of Children with Socio-Emotional Difficulties Whose Difficulties Impacted the Family Moderately or a Great Deal, by Location and Age



The Child > Impact of Socio-Emotional Difficulties



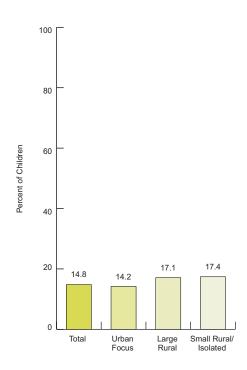


Overweight

Healthy body weight is critically important to overall health and wellbeing both during childhood and later in life. Risk factors for heart disease, such as high cholesterol and high blood pressure, occur more frequently among overweight children than those with a healthier weight. Overweight is also closely linked to type-2 diabetes and can have emotional effects such as poor selfesteem and depression. Furthermore, it is estimated that overweight adolescents have a 70 percent chance of going on to become overweight or obese adults; this rate is even higher among children with overweight or obese parents.8 Overweight and obesity and their associated health problems create direct and indirect costs that have significant economic impact on U.S. health care expenditures. The NSCH measures overweight in children through parent-reported height and weight measures. "Overweight" means that the child's Body Mass Index (BMI), calculated from the parent-reported height and weight, is at or above the 95th percentile for sex and age.9 When a child is considered to be overweight, this means that at least 95 percent of children of the same sex and age have lower BMIs, according to nationally representative data on height and weight that were measured by health professionals in other research studies.

Overall, based on parent-reported height and weight, almost 15 percent

Percent of Children Aged 10-17 Who Are Overweight, by Location





of children aged 10-17 in the United States are considered overweight. Children in urban areas are somewhat less likely than children living in rural areas to be overweight. Of children living in urban areas, 14.2 percent are overweight; these figures are 17.1 and 17.4 percent, respectively, for children in large rural and small rural areas.

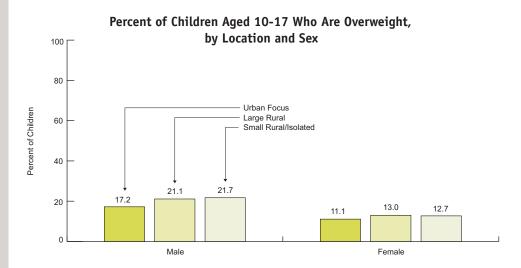
The Child > Overweight

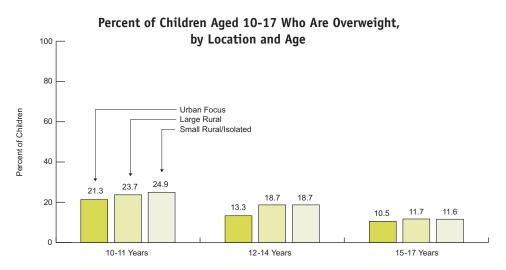


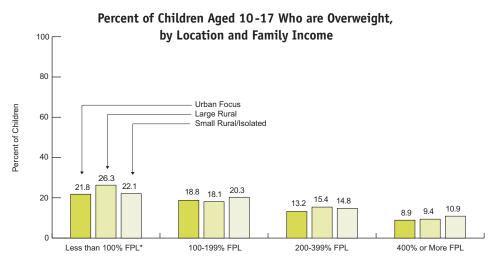


In general, boys, younger children, and children with lower family incomes are more likely to be overweight than their counterparts. Within each of these demographic groups, children living in rural settings are more likely to be overweight than their urban counterparts. For instance, 17.2 percent of boys living in an urban area are overweight, compared to 21.1 percent living in large rural and 21.7 percent living in small rural areas.

One of the most noticeable differences by location occurs among children ages 12-14: 13.3 percent of children in this age group who live in an urban area are overweight, while the same is true of 18.7 percent of children living in large and small rural areas. In most income categories, children in urban areas are least likely to be overweight. For example, 21.8 percent of children living in urban areas are considered overweight, compared to 26.3 percent in large rural areas. The only exception is among children with family incomes of 100-199 percent of Federal poverty level who, although the difference is very slight, are most likely to be overweight in small rural areas but least likely to be overweight in large rural areas (20.3 and 18.1 percent, respectively).







^{*}Federal Poverty Level, equal to \$18,400 for a family of four in 2003.



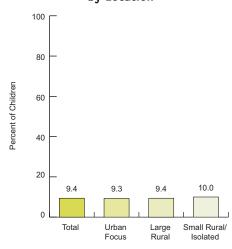


Injury

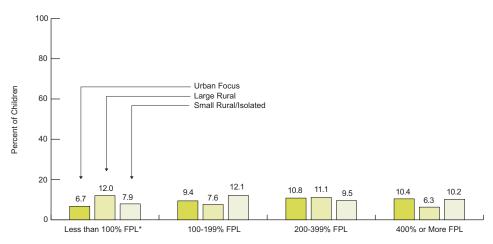
Unintentional injury—including motor vehicle crashes, falls, and cuts—is a major risk to children's health and is the leading cause of death for children over 1 year of age. For the NSCH, parents of children aged 5 and under were asked whether their child had required medical attention for an accidental injury over the past year. Overall, over 9 percent of children were reported to have experienced such an injury. Children living in small rural areas appear to be slightly more likely to experience injury than children in urban areas (10.0 versus 9.3 percent, respectively). The injury rate of children living in large rural areas (9.4 percent) is similar to that of children in urban areas.

This slightly higher injury rate in small rural areas is no longer evident once the data are further divided by other demographic variables. For instance, the past-year injury rate among children with family incomes below the Federal poverty level (FPL) is highest in large rural areas (12.0 percent) and lowest in urban areas (6.7 percent); among children with family incomes of 100-199 percent of FPL, rates are highest in small rural areas (12.1 percent) and lowest in large rural areas (7.6 percent). The rates among children with higher family incomes are as varied as those among children with lower family incomes.

Percent of Children Aged 0-5 Years with Injuries in the Past Year, by Location



Percent of Children Aged 0-5 Years with Injuries in the Past Year, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.



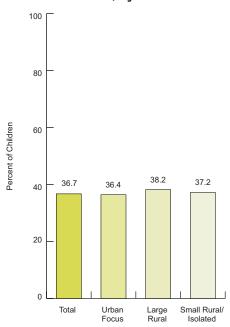


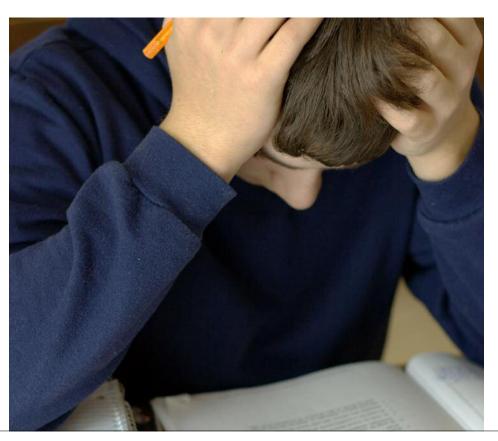


Parents' Concerns

The NSCH asked parents of children aged 5 and under about specific concerns in the areas of speech, language comprehension, manual dexterity, motor skills, behavior, getting along with others, the ability to do things for themselves, and pre-school and school skills. Overall, the parents of almost 37 percent of children reported concerns in at least one of these areas. However, little variation by location is evident: 36.4 percent of children in urban areas have parents who reported concerns, compared to 38.2 percent of children in large rural areas, and 37.2 percent of children in small rural areas.

Percent of Children Aged 0-5 Years with Parent-Reported Concerns About Their Learning, Development, or Behavior, by Location





The Child > Parents' Concerns

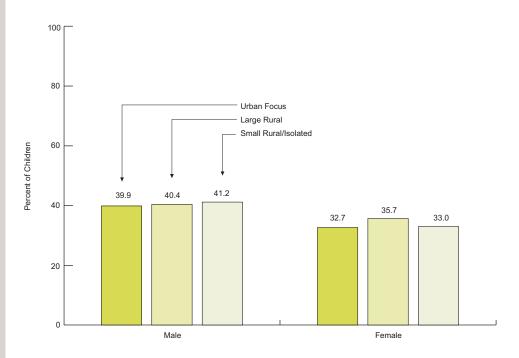




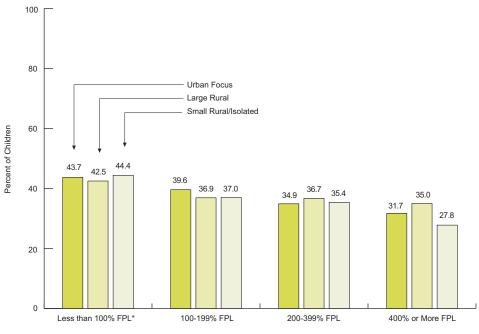
Overall, the parents of boys are more likely to report concerns regarding learning, development, or behavior than the parents of girls, but there is little variation by location. Among boys, children in urban areas are least likely to have parents who report concerns (39.9 percent), and children in small rural areas are most likely to cause potential concerns (41.2 percent); among girls, concerns were also least often reported in urban areas (32.7 percent) but most often reported in large rural areas (35.7 percent).

With regard to family income, parent-reported concerns occur less often as income rises, again with no clear pattern by location. Among children with family incomes below the Federal poverty level (FPL), parent concerns are least often reported in large rural areas (42.5 percent) and most often reported in small rural areas (44.4 percent); conversely, among children with family incomes of 400 percent of FPL and above, concerns are least often reported in small rural areas (27.8 percent) and most often reported in large rural areas (35.0 percent).

Percent of Children Aged 0-5 Years with Parent-Reported Concerns About Their Learning, Development, or Behavior, by Location and Sex



Percent of Children Aged 0-5 Years with Parent-Reported Concerns About Their Learning, Development, or Behavior, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

The Child > Parents' Concerns



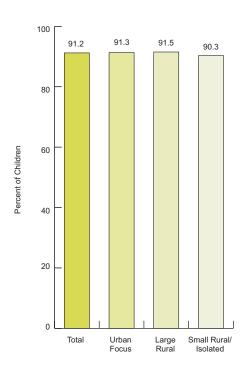


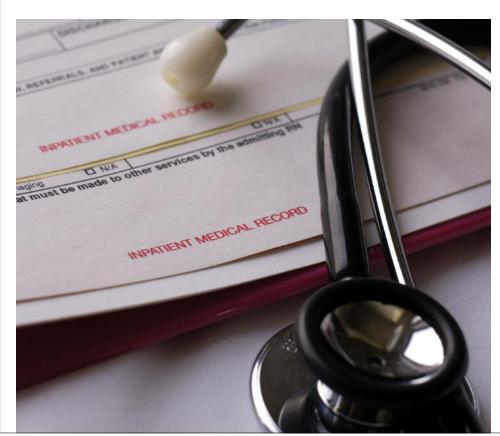
Current Health Insurance

The NSCH asked parents if their child currently had any kind of health insurance, including HMOs or government plans such as Medicaid. (In this survey, health insurance did not include coverage through the Indian Health Service.)

Overall, over 91 percent of children have current health insurance coverage. This rate does not vary substantially by location: 91.3 percent of children in urban areas have coverage, compared to 91.5 percent of children in large rural areas and 90.3 percent of children in small rural areas.

Percent of Children with Current Health Insurance, by Location





The Child > Current Health Insurance

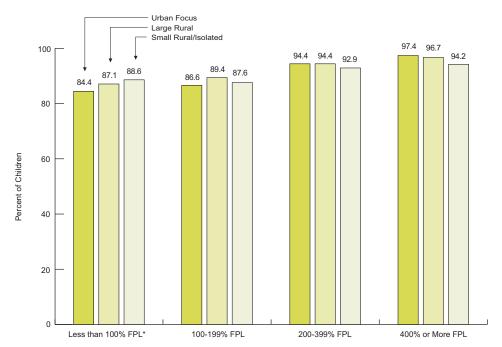




In general, rates of coverage increase with increasing family income. The rates by location vary slightly within each income level, although the pattern is not consistent across incomes. For instance, children with family incomes below the Federal poverty level (FPL) are most likely to be insured in small rural areas (88.6 percent) and least likely to be insured in urban areas (84.4 percent). Conversely, children with family incomes of 400 percent of FPL and above are most likely to be insured in urban areas (97.4 percent) and least likely to be insured in small rural areas (94.2 percent).

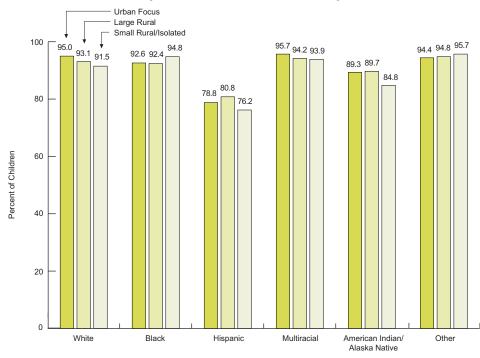
With regard to race and ethnicity, White children, children of multiple races, and children of other races are most likely to be insured, followed closely by Black children; Hispanic children have the lowest health insurance coverage rates. As with income, rates by location vary within each race, although there is no consistent pattern across races. Among White children, insurance rates are highest in urban areas (95.0 percent) and lowest in small rural areas (91.5 percent); however, rates among Black children are highest in small rural areas (94.8 percent) and approximately equal in large rural and urban areas (92.4 and 92.6 percent, respectively).

Percent of Children with Current Health Insurance, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

Percent of Children with Current Health Insurance, by Location and Race and Ethnicity



The Child > Current Health Insurance

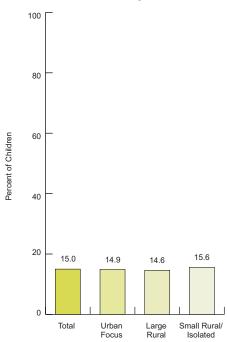




Coverage Consistency

Although over 90 percent of children have health insurance, some experience periods of time when they are not covered over the course of a year. Overall, 15.0 percent of children experienced a gap in their coverage at some point over the past year (including those who were uninsured at the time of the survey). The percent of children experiencing a gap in health insurance coverage at some time during the year varies little by location: 14.9 percent of children in urban areas experience inconsistent insurance coverage, as do 14.6 percent of children in large rural areas and 15.6 percent of children in small rural areas.

Percent of Children Lacking Consistent Insurance Coverage in the Past Year, by Location





The Child > Coverage Consistency

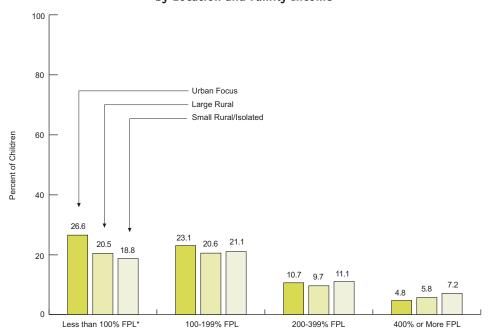




In general, gaps in health insurance coverage are more likely to occur among children with lower family incomes and children who are Hispanic or American Indian/Alaska Native. With regard to income, children with lower family incomes are most likely to experience gaps in coverage in urban areas, while children with higher family incomes are most likely to experience such gaps in small rural areas. For instance, the rates among children with family incomes below the Federal poverty level (FPL) are 26.6 percent in urban areas and 18.8 percent in small rural areas; conversely, the rates among children with family incomes of 400 percent of FPL and above are 7.2 percent in small rural areas and 4.8 percent in urban areas.

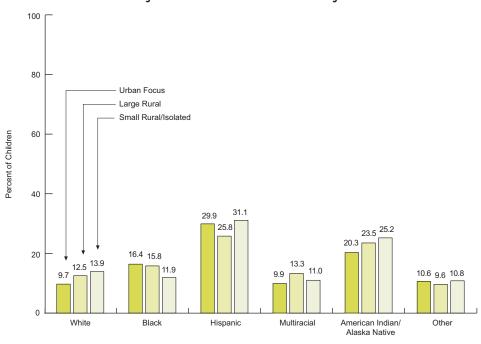
Hispanic children, who experience the highest rate of coverage gaps of any racial or ethnic group, are least likely to experience such gaps in large rural areas (25.8 percent) and most likely in small rural areas (31.1 percent). American Indian/Alaska Native children, who experience high rates of coverage inconsistency, are also most likely to experience gaps in coverage in rural areas (25.2 percent). White children have some of the lowest rates of coverage inconsistency and, as with Hispanic and American Indian/ Alaska Native children, their highest rate occurs in small rural areas (13.9 percent). Black children are the only racial or ethnic group whose highest rate of inconsistent coverage occurs in urban areas (16.4 percent).

Percent of Children Lacking Consistent Insurance Coverage in the Past Year, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

Percent of Children Lacking Consistent Insurance Coverage in the Past Year, by Location and Race and Ethnicity



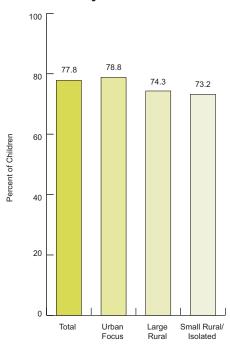




Preventive Health Care Visits

The Bright Futures quidelines for health supervision of infants, children, and adolescents recommend that children visit a physician for preventive health care six times during the first year, three times in the second year, and annually thereafter. 10 Preventive visits provide the opportunity to monitor a child's growth and development, assess behavior, provide immunizations, discuss important issues regarding prevention of injury and violence, review appropriate nutrition, and answer any parental questions. Overall, almost 78 percent of children received a preventive care visit in the past year. Receipt of a preventive visit is noticeably less likely in rural areas: 73.2 percent of children in small rural areas and 74.3 percent in large rural areas received a preventive visit in the past year, compared to 78.8 percent of children in urban areas.

Percent of Children with a Preventive Health Care Visit in the Past Year, by Location





The Child > Preventive Health Care Visits

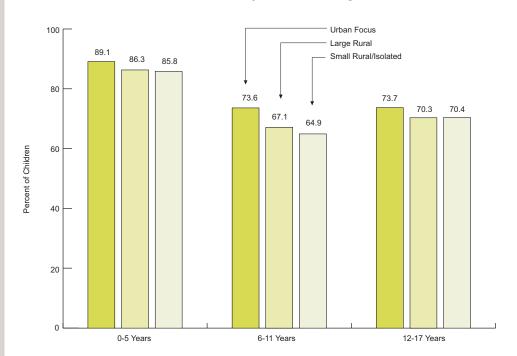




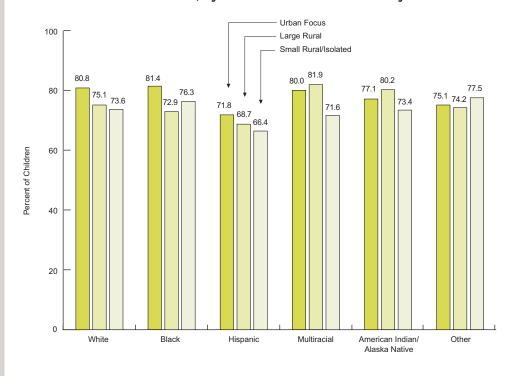
Children of all ages in rural areas are less likely to receive a preventive health care visit over the course of a year than children in urban areas; in most cases, rates are the lowest in small rural areas, in particular. For instance, among children from birth to age 5, 89.1 percent in urban areas received a preventive health visit in the past year, compared to 85.8 percent in small rural areas. Among children aged 6-11 years, those rates are 73.6 and 64.9 percent, respectively. The oldest children, aged 12-17 years, also experience the highest rates of preventive care receipt in urban areas (73.7 percent), while the rates in large rural and small rural areas are approximately the same (70.3 and 70.4 percent, respectively).

In each location, Hispanic children are the least likely to receive an annual preventive care visit. Among urban children, 71.8 percent of Hispanic children received a visit, compared to 80.8 percent of White children and 81.4 percent of Black children. Similarly, among children in small rural areas, fewer than two-thirds (66.4 percent) of Hispanic children had a preventive visit in the past year, compared to 73.6 percent of White children and 76.3 percent of Black children.

Percent of Children with a Preventive Health Care Visit in the Past Year, by Location and Age



Percent of Children with a Preventive Health Care Visit in the Past Year, by Location and Race and Ethnicity



The Child > Preventive Health Care Visits

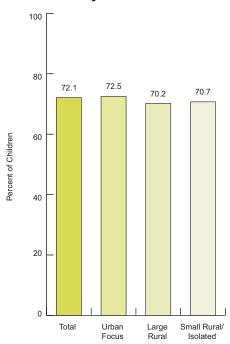




Preventive Dental Visits

The Bright Futures oral health quidelines recommend that children have their first dental checkup within 6 months of the eruption of the first tooth and no later than 12 months of age. 11 Although the traditional recommendation for the periodicity of visits is 6 months thereafter, most professionals believe that an individualized schedule recommended by the dentist is most appropriate. Overall, 72.1 percent of children received one dental visit in the past year. A dental visit in the past year is slightly more common among children in urban areas (72.5 percent) than among children in large rural and small rural areas (70.2 and 70.7 percent, respectively).

Percent of Children with a Preventive Dental Visit in the Past Year, by Location





The Child > Preventive Dental Visits

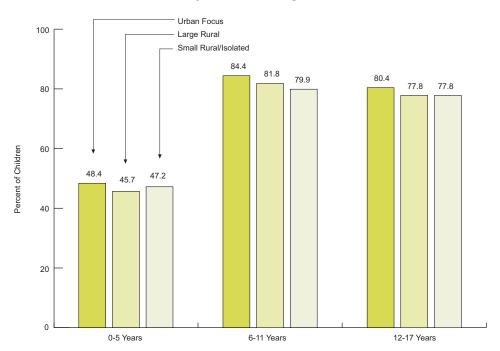




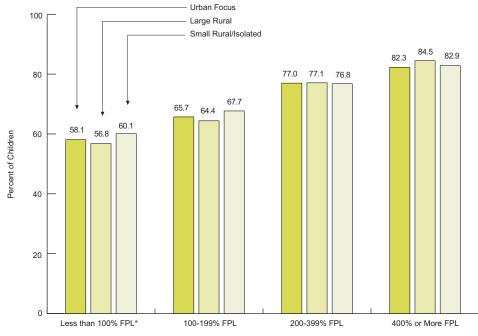
In general, children aged 6-11 years and children with higher family incomes are most likely to have received a preventive dental visit in the past year. Within each age group, children in urban areas are most likely to receive a preventive dental visit; however, whether this is least likely in large rural or small rural areas varies by age group. For instance, the rate among children aged 1-5 years old is highest (48.4 percent) in urban areas and lowest (45.7 percent) in large rural areas; among children aged 6-11 years, the highest rate is also in urban areas (84.4 percent) but lowest in small rural areas (79.9 percent).

Children with family incomes below the Federal poverty level (FPL) and children with family incomes of 100-199 percent of FPL are most likely to receive preventive dental care in small rural areas (60.1 and 67.7 percent, respectively), and least likely in large rural areas (56.8 and 64.4 percent, respectively). The highest rates among children with family incomes of 200-399 percent of FPL and children with family incomes of 400 percent of FPL and above occur in large rural areas (77.1 and 84.5 percent, respectively).

Percent of Children with a Preventive Dental Visit in the Past Year, by Location and Age



Percent of Children with a Preventive Dental Visit in the Past Year, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

The Child > Preventive Dental Visits





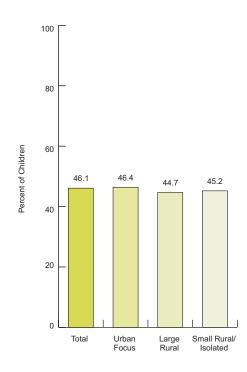
Medical Home

A number of the characteristics of high-quality health care for children can be combined into the concept of the medical home. As defined by the American Academy of Pediatrics, children's medical care should be accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally effective. The NSCH included several questions that sought to measure whether a child's health care met this standard:

- Whether the child has at least one personal doctor or nurse who knows him or her well;
- Whether this personal doctor or nurse usually or always spends enough time with the family, explains things so the parent can understand, and provides interpreter services when needed;
- Whether this personal doctor or nurse usually or always provides telephone advice or urgent care when the child needs it:
- Whether the child has little or no problem gaining access to specialty care, services, and/or equipment when it is needed;
- Whether the personal doctor or nurse followed up by talking with the family about the child's specialist visit and/or use of special services or equipment; and
- Whether the child had a preventive visit in the past year.

A child was defined as having a medical home if he or she had at

Percent of Children with a Medical Home, by Location





least one preventive visit in the past year, had little or no problem with access to specialty care, and reported having a personal doctor or nurse who usually or always spent enough time and communicated clearly with families, provided telephone advice or urgent care when needed, and followed up with the family after the child's specialty care visits.

Overall, 46.1 percent of children receive care that meets this standard. Children living in urban areas are slightly more likely to have a medical home than children in other locations: the urban rate is 46.4 percent, compared to 44.7 percent in large rural and 45.2 percent in small rural areas.

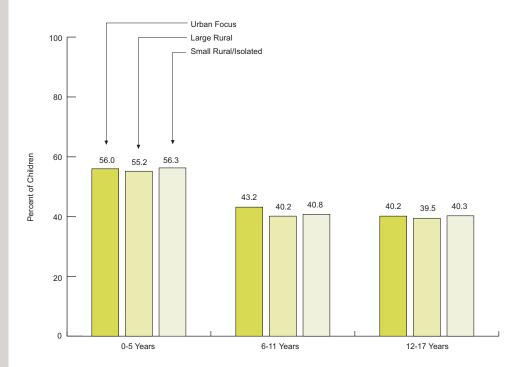




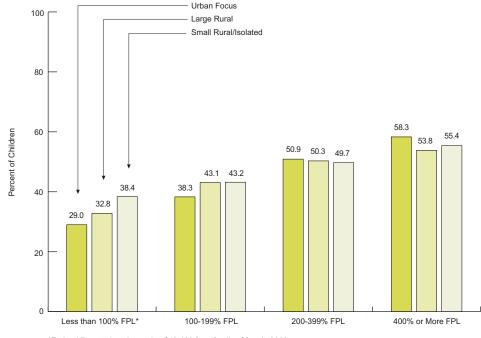
In general, younger children and children with higher family incomes are most likely to have a medical home. Within each age group, the percent of children with a medical home varies little across location. For instance, 56.0 percent of children age 5 and younger in urban areas have a medical home, compared to 55.2 percent in large rural areas and 56.3 percent in small rural areas. Among children aged 6-11 years, the rates of medical homes in urban, large rural, and small rural areas are 43.2, 40.2, and 40.8 percent, respectively.

Slightly more variation is evident across locations by family income. The greatest difference is seen among children with family incomes below the Federal poverty level (FPL): among this group, the rate of medical homes in urban areas is 29.0 percent compared to 38.4 percent in small rural areas. Among children with family incomes of 400 percent of FPL and above, the highest rate of medical homes occurs in urban areas (58.3 percent) while the lowest rate occurs in large rural areas (53.8 percent).

Percent of Children with a Medical Home, by Location and Age



Percent of Children with a Medical Home, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

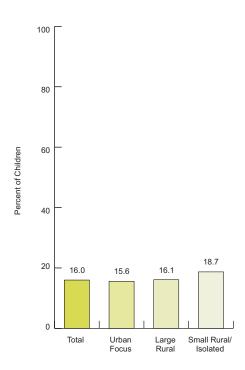




Staying Home Alone

Parents of 6- to 11-year-olds were asked if their children had spent any time caring for themselves without the supervision of an adult or older child, for even a small amount of time, in the past week. Overall, 16 percent of children were reported to have been home alone for some amount of time. Children in rural areas, particularly small rural areas, are more likely to be home alone than their urban counterparts. Being home alone in the last week occurred among 18.7 percent of children in small rural areas, compared to 16.1 percent in large rural areas and 15.6 percent in urban areas.

Percent of Children Aged 6-11 Years Staying Home Alone, by Location





The Child > Staying Home Alone

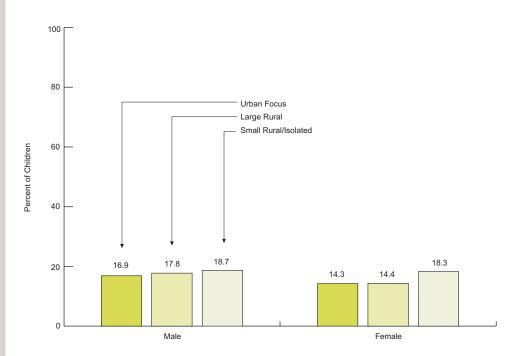




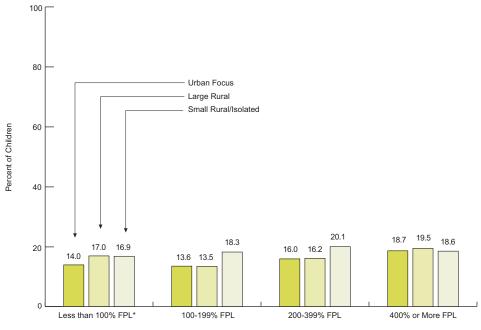
In general, boys are more likely than girls to stay home alone, and both sexes are more likely to stay alone in rural areas than urban areas. Among boys, staying home alone in the past week occurred among 16.9 percent living in urban areas, 17.8 percent living in large rural areas, and 18.7 percent in small rural areas. Staying home alone occurred among girls at a rate of 14.3, 14.4, and 18.3 percent, respectively.

The pattern of higher rates of staying home alone in small rural areas is not as strong with regard to family income. For instance, children with family incomes below the Federal poverty level (FPL) are least likely to stay home alone in urban areas (14.0 percent), but are about equally as likely to stay home alone in large rural and small rural areas (17.0 and 16.9 percent, respectively). Children with family incomes of 400 percent of FPL and above are equally as likely to stay home alone in urban and small rural areas (18.7 and 18.6 percent, respectively) and most likely to stay home alone in large rural areas (19.5 percent).

Percent of Children Aged 6-11 Years Staying Home Alone, by Location and Sex



Percent of Children Aged 6-11 Years Staying Home Alone, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

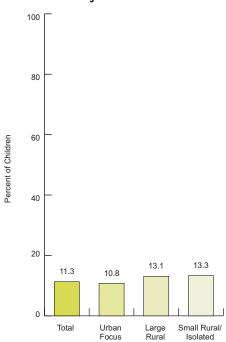


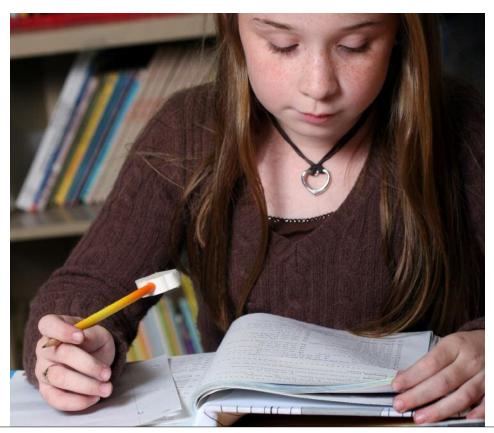


Repeating a Grade

Parents of school-aged children (6 years and older) were asked if their children had repeated one or more grades since starting school. Overall, 11.3 percent of children have repeated a grade. Children in rural areas are slightly more likely than children in urban areas to repeat a grade. Of children in urban areas, 10.8 percent have repeated a grade, compared to 13.1 percent in large rural and 13.3 percent in small rural areas.

Percent of Children Aged 6-17 Years Who Have Repeated a Grade, by Location





The Child > Repeating a Grade

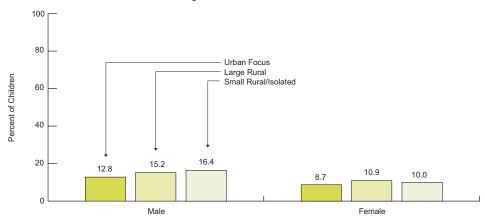




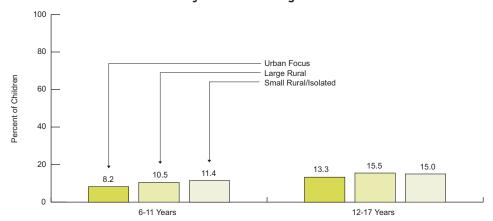
In general, boys, older children, and children from families with lower incomes are most likely to repeat a grade. Among boys, the rate of repeating a grade is lowest in urban areas (12.8 percent) and highest in small rural areas (16.4 percent). The differences across locations among girls are less noticeable, and rates are actually highest in large rural areas. Among children aged 6-11 years, the lowest rate also occurs in urban areas (8.2 percent) and the highest rate occurs in small rural areas (11.4 percent). The rates among older children display a similar pattern, although, as with girls, the highest rates occur in large rural areas.

Children with lower family incomes are more likely to repeat a grade in rural areas while children with higher family incomes are more likely to do so in urban areas. Among children with family incomes below the Federal poverty level, 27.2 percent in small rural areas repeated a grade compared to 20.7 percent in urban areas. Among children with the highest family incomes, 5.4 percent in urban areas repeated a grade compared to 4.3 percent in small rural areas.

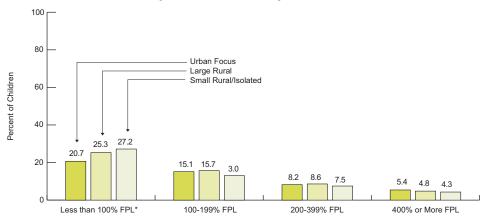
Percent of Children Aged 6-17 Years Who Have Repeated a Grade, by Location and Sex



Percent of Children Aged 6-17 Years Who Have Repeated a Grade, by Location and Age



Percent of Children Aged 6-17 Years Who Have Repeated a Grade, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

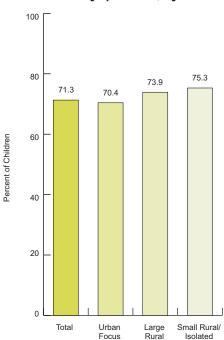




Regular Physical Activity

Physical activity plays a key role in health by helping children to maintain an appropriate energy balance, which in turn helps to regulate weight. Physical activity also reduces the risk for certain cancers, diabetes, and high blood pressure, and contributes to healthy bones and muscles.12 According to parent reports, 71.3 percent of children aged 10-17 exercise on three or more days per week. Children in rural areas are more likely than children in urban areas to participate in regular physical activity. Among children in urban areas, 70.4 percent exercise regularly, compared to 73.9 percent of children in large rural areas and 75.3 percent of children in small rural areas.

Percent of Children Aged 10-17 Who Participate in Physical Activity on 3 or More Days per Week, by Location





The Child > Regular Physical Activity

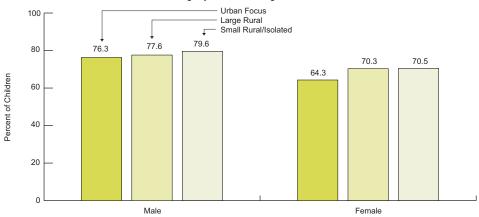




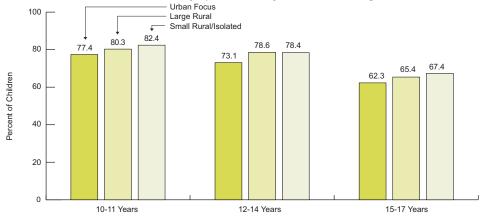
Boys, younger children, and children with higher family incomes are most likely to exercise. Regular physical activity is more common among children in rural areas than urban areas across all sex, age, and family income groups. Among boys, rates of physical activity in urban, large rural, and small rural areas are 76.3, 77.6, and 79.6 percent, respectively; rates among girls in these areas of residence are 64.3, 70.3, and 70.5 percent. Patterns are similar for all three age groups, with children aged 10-11 years living in small rural areas being especially likely to exercise on 3 or more days per week (82.4 percent).

Children from all family income levels are more likely to exercise in rural areas, but one of the largest disparities between urban and rural areas occurs among children with family incomes below the Federal poverty level (FPL): rates among those children are 62.1 percent in urban areas, compared to 74.5 percent in large rural areas and 75.1 percent in small rural areas. Children with family incomes of 400 percent of FPL and above and living in large rural and small rural areas are particularly likely to exercise (78.4 and 78.8 percent, respectively).

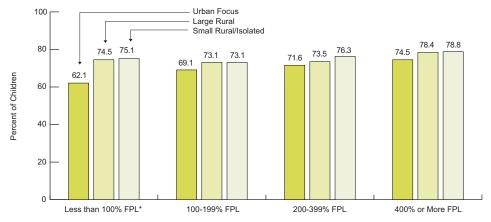
Percent of Children Aged 10-17 Who Participate in Physical Activity on 3 or More Days per Week, by Location and Sex



Percent of Children Aged 10-17 Who Participate in Physical Activity on 3 or More Days per Week, by Location and Age



Percent of Children Aged 10-17 Who Participate in Physical Activity on 3 or More Days per Week, by Location and Family Income



^{*}Federal Poverty Level, equal to \$18,400 for a family of four in 2003.





The Child's Family

The environment of the family provides the backdrop and context for children's health and development. Two indicators of the family environment showed particular differences between rural and urban children: the percentage of children whose parents reported being aggravated by their children, and the percentage of children who live with people who smoke.





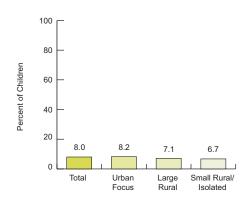
Parenting Aggravation

The demands of parenting can cause considerable aggravation for families. Parents were asked how often during the past month they had felt that their child was much harder to care for than others of his or her age; how often the child did things that really bothered them; and how often they had felt angry with the child. Overall, parents of 8 percent of children answered "usually" or "always" to at least one of these measures of parenting aggravation. Parenting aggravation is noticeably lower among the parents of children living in small rural areas: parents of 6.7 percent of these children report aggravation, compared to parents of 8.2 percent of children in urban areas.

In general, the parents of older children and children with lower family incomes experience more parenting aggravation. In every age group, rates of parenting aggravation are lowest in rural areas. For instance, among children up to age 5, the parents of 6.9 percent usually or always experience parenting aggravation in urban areas, compared to parents of 5.7 and 5.5 percent in large rural and small rural areas, respectively. This pattern holds true among older children, with the highest rates of parenting aggravation among the parents of children aged 12-17 years living in urban areas (10.0 percent).

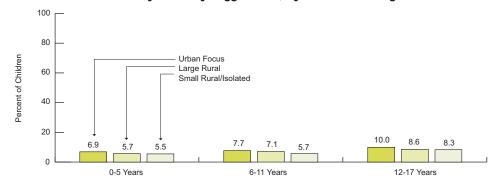
Rates of parental aggravation are also lowest in rural areas across each income group. Children with family

Percent of Children Whose Parents Are Usually or Always Aggravated, by Location



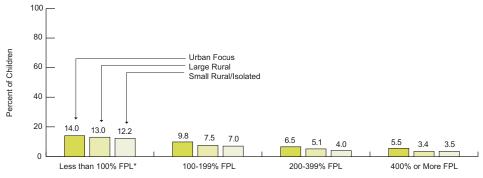
Percent of Children Whose Parents

Are Usually or Always Aggravated, by Location and Age



Percent of Children Whose Parents

Are Usually or Always Aggravated, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

incomes below the Federal poverty level (FPL) living in urban areas are the most likely to have aggravated parents (14.0 percent), while children with family incomes of 400 percent of FPL and above living in large rural and small rural areas are the least likely (3.4 and 3.5 percent, respectively).

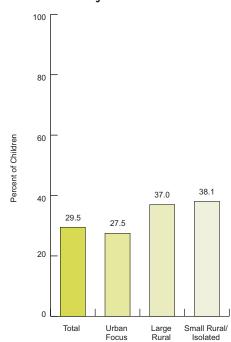




Smoking in the Household

Exposure to environmental smoke from cigarettes, cigars, or pipes can be a serious health hazard for children. According to the Centers for Disease Control and Prevention, exposure to secondhand smoke is associated with higher rates of sudden infant death syndrome (SIDS), asthma, bronchitis, and pneumonia in young children.¹³ Parents were asked whether anyone in the household used cigarettes, cigars, or pipe tobacco. Overall, almost one-third of children live in households where someone smokes. Exposure to environmental smoke in the household is considerably more common in rural areas: of children in urban areas, 27.5 percent live with a smoker, compared to 37.0 percent of children in large rural areas and 38.1 percent of children in small rural areas.

Percent of Children Living in Households with a Smoker, by Location





The Child's Family > Smoking in the Household



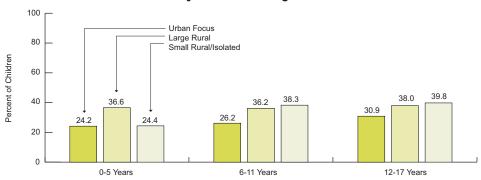


In general, older children, children with lower family incomes, and White and American Indian/Alaska Native children are most likely to be exposed to smoking in the household. Within most age, income, racial, and ethnic groups, smoking is more common in rural areas. With regard to age, living with a smoker is most common among children aged 12-17 years who live in small rural areas (39.8 percent), while it is least common among children aged 0-5 living in urban areas (24.2 percent).

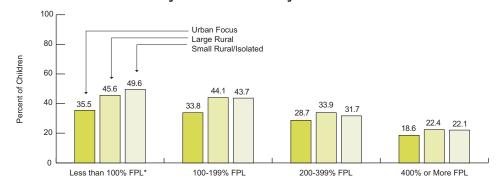
Some of the greatest disparities across location occur within family income groups. Nearly half of all children with family incomes below the Federal poverty level (FPL) who live in small rural areas are exposed to household smoke, compared to 35.5 percent of children in that income group living in urban areas. These disparities within income groups become smaller as income rises: among children with family incomes of 400 percent of FPL and above, the lowest rate, which occurs in urban areas, is 18.6 percent, compared to a rate of 22.4 percent, which occurs in large rural areas; this is a difference of less than 4 percentage points, compared to a difference of almost 15 percentage points among the lowest income group.

Household smoking rates are greatest in rural areas within every racial and ethnic group with only one exception: among Black children, living with a smoker is least common in small

Percent of Children Living in Households with a Smoker, by Location and Age

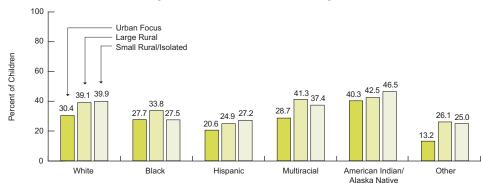


Percent of Children Living in Households with a Smoker, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

Percent of Children Living in Households with a Smoker, by Location, Race, and Ethnicity



rural areas (27.5 percent) and most common in large rural areas (33.8 percent). With regard to race and ethnicity, American Indian/Alaska Native children in small rural areas are most likely to live with a smoker (46.0 percent) while urban children classified in the other races category and Hispanic children are least likely (13.2 and 20.6 percent, respectively).





The Child and Family's Neighborhood

Urban and rural communities may differ in their support for families and children. Two indicators of a neighborhood's family-friendliness—a child's safety in the neighborhood and the availability of child care—can affect a family's comfort level (or can affect a family's perception of their community and its support of children). These indicators showed particular differences by location.

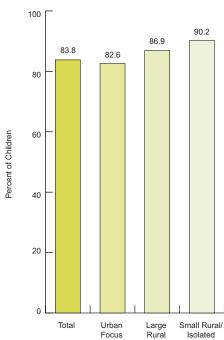




Safety of the Child in the Neighborhood

Families are more likely to feel comfortable in their neighborhood if they feel that their children are safe. Parents were asked how often they felt that their child was safe in their community or neighborhood never, sometimes, usually, or always. Overall, parents of almost 84 percent of children report that they feel that their child is usually or always safe in their neighborhood. Parents of children in rural areas are more likely to feel that their child is safe than parents of children in urban areas: 82.6 percent of children in urban areas are safe, according to their parents, compared to 86.9 percent of children in large rural and 90.2 percent of children in small rural areas.

Percent of Children Who Are Reported to be Usually or Always Safe in Their Neighborhood, by Location





The Child and Family's Neighborhood > Safety of the Child in the Neighborhood

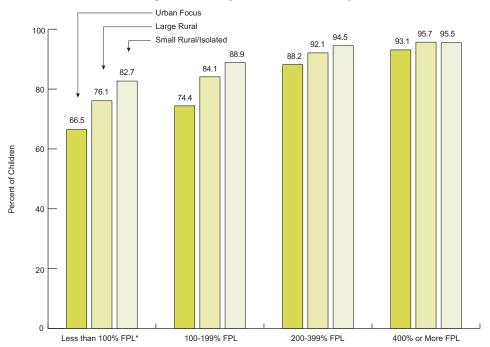




Parents of children with higher family incomes and White, multiracial, and American Indian/Alaska Native children are most likely to report that their child is safe in his or her neighborhood. Within every income group, the percent of children whose parents report them to be safe in their neighborhood is highest in rural areas, although the disparity between urban and rural begins to diminish as income rises. For instance, among children with family incomes below the Federal poverty level (FPL), 66.5 percent in urban areas are reportedly safe in their neighborhood, compared to 82.7 percent in small rural areas; among children with family incomes of 400 percent of FPL and above, the rate in urban areas is 93.1 percent compared to 95.7 percent and 95.5 percent in large and small rural areas, respectively.

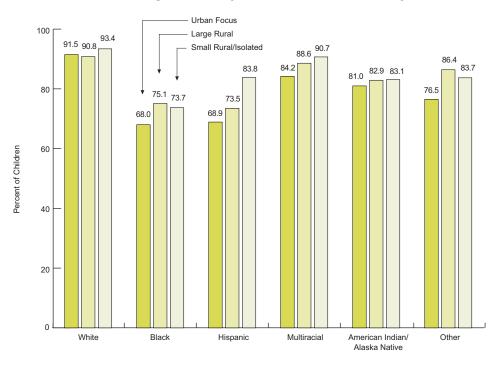
In each racial and ethnic group, rural children are more likely to be reported as safe in their neighborhoods, with one exception: White children are least likely to be reported to be safe in the neighborhood in large rural areas (90.8 percent), although they are most likely to be considered safe in the neighborhood in small rural areas (93.4 percent). In all locations, White children are more likely to be reported to be safe in their neighborhood than are Black children: of urban White children, for example, 91.5 percent are reported to be safe, compared to 68.0 percent of urban Black children.

Percent of Children Who Are Reported to be Usually or Always Safe in Their Neighborhood, by Location and Family Income



*Federal Poverty Level, equal to \$18,400 for a family of four in 2003.

Percent of Children Who Are Reported to be Usually or Always Safe in Their Neighborhood, by Location, Race, and Ethnicity



The Child and Family's Neighborhood > Safety of the Child in the Neighborhood



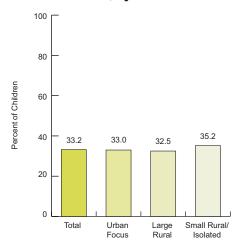


Child Care

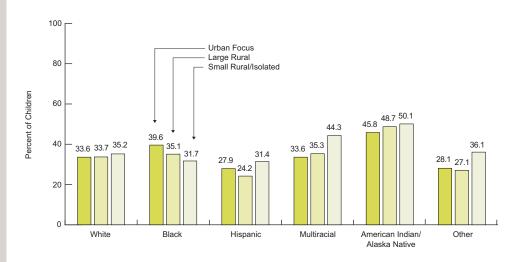
The availability of child care, and the ability to make backup child care arrangements in emergencies, is another important aspect of families' comfort in their communities. Parents of children from birth to age 5 were asked about two common child care problems: how many times in the past month they had to make different child care arrangements due to circumstances beyond their control, and whether anyone in the family had to quit a job, not take a job, or greatly change their job because of child care problems within the past year. Overall, parents of approximately one-third of children reported that they had one or both of these types of child care issues. Problems with child care are slightly more likely in small rural areas (35.2 percent) than in large rural and urban areas (32.5 and 33.0 percent, respectively).

The parents of children in almost every racial and ethnic category more commonly reported child care problems in rural areas than urban areas. However, problems with child care among Black children were most common in urban areas: the parents of 39.6 percent of Black children in urban areas had problems with child care, compared to 35.1 percent in large rural and 31.7 percent in small rural areas. The parents of American Indian/Alaska Native children were the racial/ethnic group most likely to report child care problems, with over half in small rural areas reporting

Percent of Children Aged 0-5 Years Whose Families Experienced Child Care Problems, by Location



Percent of Children Aged 0-5 Years Whose Families Experienced Child Care Problems, by Location, Race, and Ethnicity



such issues. The parents of Hispanic children were least likely to report problems with child care, with rates ranging from 24.2 percent in large rural areas to 31.4 percent in small rural areas.





Technical Appendix

About the Survey

The National Survey of Children's Health (NSCH) was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism. SLAITS is conducted by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS). It uses the same large-scale random-digit-dial sampling frame as the CDC's

National Immunization Survey.14

Approximately 1.9 million telephone numbers were randomly generated for inclusion in the NSCH. After eliminating numbers that were determined to be nonresidential or nonworking, the remaining numbers were called to identify households with children less than 18 years of age. From each household with children, one was randomly selected to be the focus of the interview.

The respondent was the parent or

guardian in the household who was most knowledgeable about the health and health care of the children under 18 years of age. For 79 percent of the children, the respondent was the mother. Respondents for the remaining children were fathers (17 percent), grandparents (3 percent), or other relatives or guardians (1 percent). Surveys were conducted in English and Spanish. Overall, 5.9 percent of the interviews were completed in Spanish.

Data Collection

Data collection began on January 29, 2003 and ended on July 1, 2004, with interviews conducted from telephone centers in Chicago, Illinois; Las Vegas, Nevada; and Amherst, Massachusetts. A computer-assisted telephone interviewing system was used to collect the data. A total of 102,353 interviews were completed for the NSCH, with 87 percent of the interviews completed in 2003. The number of completed

interviews varied by State, ranging from 1,848 in New Mexico to 2,241 in Louisiana and Ohio, with one exception: Only 1,483 interviews were completed in Utah.

The cooperation rate, which is the proportion of interviews completed after a household was determined to include a child under age 18, was 68.8 percent. The national weighted response rate, which includes the cooperation rate as well as the resolution rate (the proportion of telephone numbers identified

as residential or nonresidential) and the screening completion rate (the proportion of households successfully screened for children), was 55.3 percent.

Several efforts were made to increase response rates, including sending letters to households in advance to introduce the survey, leaving toll-free numbers on potential respondents' answering machines to allow them to call back, and providing small monetary incentives for those households with children who initially declined to participate.

Data Analysis

For producing the population-based estimates in this report, the data records for each interview were assigned a sampling weight. These weights are based on the probability of selection of each household telephone number within each State, with adjustments that compensate for households that have multiple telephone numbers, for households without telephones, and for nonresponse.

With data from the U.S. Bureau of the Census, the weights were also adjusted by age, sex, race, ethnicity, household size, and educational attainment of the most educated household member to provide a dataset that was

more representative of each State's population of noninstitutionalized children less than 18 years of age. Analyses were conducted using statistical software that accounts for the weights and the complex survey design. Responses of "don't know" and "refuse to answer" were counted as missing data.

Children's areas of residence were classified according to the Rural-Urban Commuting Areas (RUCAs) developed by the Federal Office of Rural Health Policy.⁵ The 10 RUCA codes were grouped into three categories. "Urbanfocused areas" (RUCA codes 1.0, 1.1, 2.0, 2.1, 2.2, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1) include metropolitan areas and surrounding towns from which commuters flow to an urban area; large

rural areas (RUCA codes 4.0, 5.0, and 6.0) include large towns ("micropolitan" areas) with populations of 10,000 to 49,999 and their surrounding areas; and small or isolated rural areas (all remaining codes) include small towns with populations of 2,500 to 9,999 and their surrounding areas.

Children were classified by race and ethnicity in six categories: non-Hispanic White, non-Hispanic Black, Hispanic, non-Hispanic American Indian/Alaska Native (alone or in combination with other races), other single races, and other combined races. Racial and ethnic groups are mutually exclusive; that is, data reported for White, Black, multiracial, and children of other races do not include Hispanics, who may be



Data Analysis, continued

of any race. These categories differ from the racial aggregation method recommended by the Office of Management and Budget, which keeps intact the five single-race categories and includes the four double-race combinations that are most frequently reported. This analysis did not employ these nine groups because sample sizes did not support it. However, a separate category was included for American Indian/Alaska Natives, as well as those who are of other races, because their well-known health risks may vary by locality.

Accuracy of the Results

The data from the NSCH are subject to the usual variability associated with sample surveys. Small differences between survey estimates may be due to random survey error and not to true differences among children or across States.

The precision of the survey estimates is based on the sample size and the measure of interest. Estimates at the

national level will be more precise than estimates at the urban/rural level, and those for all children will be more precise than estimates for subgroups of children (for example, children 0-5 years of age or children within the same race). For national estimates of the health and health care for all children, the maximum margin of error is 0.6 percent. For estimates reported by area of residence

Availability of the Data

All data collected in the NSCH are available to the public on the NCHS (www.cdc.gov/nchs) and MCHB (www.mchb.hrsa.gov) Web sites, except for data suppressed to protect the confidentiality of the survey subjects. Data documentation and additional details on the methodology¹⁵ are available from the NCHS: www.cdc.gov/nchs/slaits.htm

Interactive data queries are possible through the Data Resource Center on Child and Adolescent Health (DRC) for the NSCH: www.nschdata.org

The DRC provides immediate access to the survey data, as well as resources and assistance for interpreting and reporting findings.

Data Limitations

The findings presented here are based entirely on parental reports; however, the majority of questions have been tested for validity when reported by parents. In some cases, data are missing for some respondents for some questions. In addition, certain populations of children, such as those with no

for all children, the maximum margin

of error is 1.6 percent.

telephones at home or those living in an institutional setting, are excluded from the survey.

Endnotes

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